

Flexidome^{XT} series



Security Systems

EN

Installation manual
Vandal resistant
surveillance dome

FR

Manuel d'installation
Dôme de surveillance
antivandalisme

DE

Installationshandbuch
Vandalismusresistente
Überwachungskuppel

ES

Manual de instalación
Domo de vigilancia
antivandálico

NL

Installatiehandleiding
Vandalbestendige
dome-
bewakingscamera

IT

Manuale d'installazione
Dome di
sorveglianza
Antivandalismo

PT

Manual de instalação
Dome de vigilância
antivandalismo

BOSCH

SAFETY PRECAUTIONS



Danger

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk to persons.



Warning

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Caution

To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.

Important Safety Instructions

1. Read these Instructions: All the safety and operating instructions should be read before the unit is operated.
2. Keep these Instructions: The safety and operating instructions should be retained for future reference.
3. Heed all Warnings: All warnings on the unit and in the operating instructions should be adhered to.
4. Follow all Instructions: All operating and use instructions should be followed.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
9. Only use attachments/accessories specified by the manufacturer.
10. Unplug this apparatus during lightning storms or when unused for long periods of time.
11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
12. Power Sources: This unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply you plan to use, consult your appliance dealer.
13. Power Line: An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits.
14. Overloading: Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.
15. Object and Liquid Entry: Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the unit.
16. Replacement Parts: When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
17. Safety Check: Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Shielded interface cables and A.C. power cord, if any, must be used in order to comply with emission limits.

Note

Any change or modification not expressly approved by Bosch of the equipment authorization could void the user's authority to operate the equipment. For additional information or to speak to a representative, please contact the Bosch Security Systems location nearest you or visit our web site at www.boschsecuritysystems.com

1 Introduction

The LTC 136x and LTC 146x series Flexidome^{XT} cameras are small, discreet, high-security surveillance domes containing high-performance 1/4-inch CCD cameras with integral varifocal lenses. The integrated unit is easily mounted to an electrical box or to a wall or ceiling. The sturdy construction and high impact resistant polycarbon dome protect the camera module from damage. The camera comes ready to use and has line-lock, phase adjustment, and backlight compensation controls to ensure the highest quality image and performance.

Type number overview

Type number	LTC 136x/10	LTC 146x/11	LTC 136x/20	LTC 146x/21
Standard	CCIR Monochrome	PAL Color	EIA Monochrome	NTSC Color
Rated supply voltage	12~24 VAC, 50Hz or 12~33 VDC		12~24 VAC, 60Hz or 12~33 VDC	
Lens	LTC 1361 and LTC 1461: 2.8-6 mm F1.4-360 LTC 1462: 2-4 mm F1.4-360; LTC 1463: 3-6 mm F1.2-360 LTC 1464: 4-9 mm F1.4-360			
CCD type	1/4 inch			

2 Unpacking

Unpack the equipment carefully and handle with care. The packaging contains:

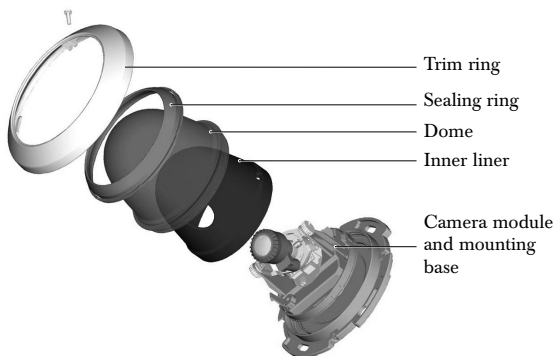
- Integrated Flexidome^{XT} camera/housing unit
- Mounting hardware kit
- Special screwdriver for tamper resistant screw
- Adapter plate
- Lens adjustment cap
- Installation manual

Note

If equipment appears to have been damaged during shipment, repack it in the original packaging and notify the shipping agent or supplier.

3 Disassembly

The Flexidome^{XT} camera/housing unit consists of the following parts:



Caution

The camera module is a sensitive device and must be handled carefully. Do not drop when disassembling the unit.

To disassemble the unit proceed as follows:

- Using the special screwdriver, loosen the tamper resistant screw in the side of the trim ring. (Leave the screw in place.)
- Rotate the trim ring counterclockwise and remove it.
- Unscrew the dome counterclockwise and remove it from the base together with the sealing ring.
- Remove the inner liner by depressing the two retention tabs near the base of the liner.

4 Mounting the unit

The unit is mounted in several different ways depending on the type of surface, whether an electrical box is used and whether the connection is via the rear or the side (raised from the surface).



Caution

Installation should only be performed by qualified service personnel in accordance with the National Electrical Code or applicable local codes.

If the connection is from the side, use the optional raised mounting base (LTC 1347) and mount the Flexidome^{XT} onto this base.

Tips

- Use the mounting base as a template to mark the position of the four screw holes and the center hole for the wires.
- Ensure that the mounting surface is level and smooth so that the rubber gasket at the back of the mounting base forms a watertight seal.
- Partially screw in two screws for the keyholes and use them to temporarily hang the camera while the connections are made.

The following drawings show the different ways of mounting the unit.

Figure 4-1 Rear connection - solid surface

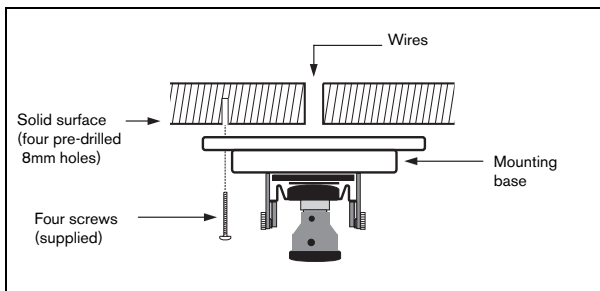


Figure 4-2 Rear connection - weak surface

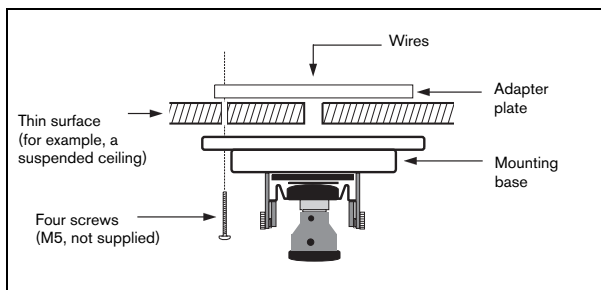


Figure 4-3 Connection to an electrical box

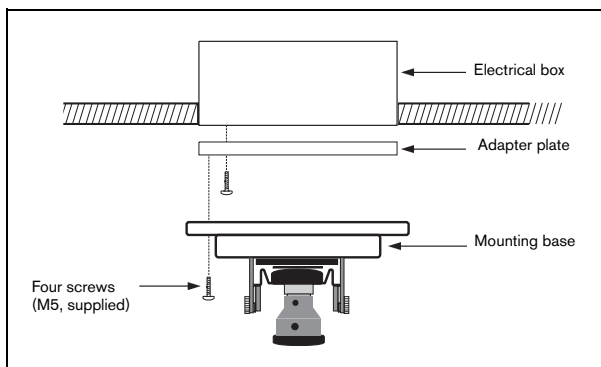


Figure 4-4 Raised mounting - side connection

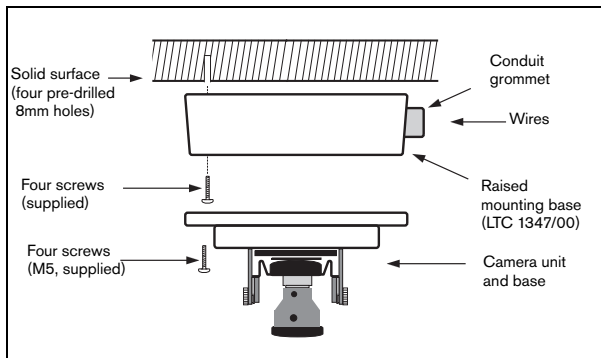
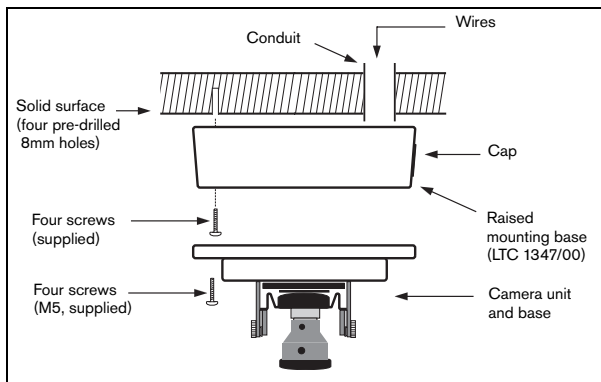


Figure 4-5 Raised mounting - rear connection



Raised mounting - side connection

When using the raised mounting base with a side connection:

- Remove the cap covering the side entrance.
- Use the conduit grommet to attach the conduit to the mounting base.
- Run the power and video wires through separate rubber grommets into the connection box area.

Raised mounting - rear connection

When using the raised mounting base with a rear connection:

- Leave the cap covering the side entrance in place.
- Run the power and video wires through separate rubber grommets into the connection box area.

Note

In order to ensure a watertight cable entry, use round cables of between 5 and 6 mm (0.2 - 0.24 inch) for power and video connection.

5 Connection and set-up

Power and video connections

The wiring harness has a BNC connector to accept the video coax cable (with male BNC connector) and two stripped wires for connection to a low voltage power source.



Caution

Before proceeding, be sure to disconnect the power from the cable to be installed into the unit. Be sure that the unit is of the proper voltage type for the power source being used.

The easiest way to connect the low voltage power lines and the video connection is as follows:

- Bring the building connections through the surface wire hole so that they hang clear.
- Partially insert two screws into the pre-drilled holes (or adapter plate).
- Using the keyholes, hang the mounting base on one screw temporarily and tilt the base slightly to gain access to the cable connections.
- Connect the BNC connector of the camera module to the video coax cable.
- Connect the stripped power wires to the power supply connector.

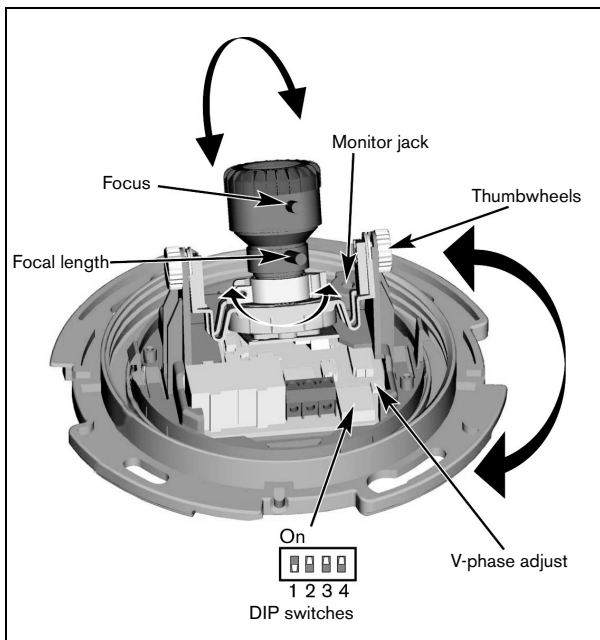
Note

For a DC supply the polarity is not important. For an AC supply try to maintain a consistent wiring polarity in multiple camera systems to help avoid rolling when switching.

- Push the connections back through the surface wire hole.
- Secure the mounting base to the surface with four screws.

Setting up the camera

You may connect a monitor to the miniature 2.5 mm jack on the printed circuit board cover to help set up the camera. This jack provides a composite video signal, via the optional cable S1460 (2.5 mm plug to BNC female).



DIP switches

Use the four DIP switches on the printed circuitboard to set the following functions:

1. BLC – Back Light Compensation (factory default: Off)
2. WB – White Balance (factory default: On)
3. NC – Night Sense (factory default: On)
4. LL – Line Lock (factory default: On)

If line lock is set to On, then you can adjust the V-phase to synronize the picture with other AC powered cameras in the system. Use a small screwdriver to rotate the V-phase control on the printed circuit board.

Camera positioning

The physical default position of the camera is that the top of the image corresponds to the indication TOP.



Caution

The CCD image sensors are highly sensitive and require special care for proper performance and extended lifetime. Do not expose them to direct sunlight or bright spotlights in operating and non-operating conditions. Avoid bright lights in the field of view of the camera.

The camera module position can be adjusted along three axes. When adjusting the camera position ensure that the picture display on the monitor is level. Set the camera to the desired position by performing the following steps:

- For horizontal adjustment, rotate the camera module in the base. Do not rotate more than 360°.
- For vertical adjustment, loosen thumbscrews, position camera, then gently tighten thumbscrews to secure camera.
- To obtain a horizontal horizon (for tilted ceilings or sidewall mounting), rotate the base of the lens as necessary to align the picture shown on the monitor. Do not rotate more than 360°.

Focal length and focus

Before adjusting, place the adjustment cap on the lens to ensure that the image sharpness is the same as when the dome is in place.

- To set the field of view of the varifocal lens, loosen the focal length screw and turn the mechanism until the required view is displayed on the monitor. (Image goes out of focus.)
- Focus the image on the monitor by loosening the focus screw and turning the mechanism until the image is in focus.
- Readjust the focal length if necessary.
- Repeat these two adjustments until the desired view is in focus.
- Tighten both screws.

Remove the adjustment cap from the lens and the S1460 adapter cable from the monitoring jack.

Closing the unit

When the camera position is set and all adjustments have been made, close the unit.

- Place the inner liner in position and align the opening with the lens.
- Screw the dome into place and if necessary clean its surface with a soft cloth.
- Place the sealing ring and the trim ring over the dome.
- Align the tamper resistant screw in the trim ring with a thread hole in the mounting base.
- Use the special screwdriver supplied to tighten the tamper resistant screw.

6 Technical specification

Type number	LTC 136x/10	LTC 146x/11	LTC 136x/20	LTC 146x/21
Standard	CCIR Monochrome	PAL Color	EIA Monochrome	NTSC Color
Rated supply voltage	12-24 VAC, 50Hz or 12-33 VDC		12-24 VAC, 60Hz or 12-33 VDC	
Lens	LTC 1361 and LTC 1461: 2.8-6 mm F1.4-360 LTC 1462: 2-4mm F1.4-360; LTC 1463: 3-6 mm F1.2-360 LTC 1364 and LTC 1464, 4-9 mm F1.4-360			
Imager	1/4-inch Interline CCD			
Resolution	570 TVL	540 TVL	570 TVL	540 TVL
Video output	1 V _{pp} , 75 Ohm			
BLC	BLC ON or OFF selectable			
ALC lens	DC iris			
Power consumption	≤ 2 W			
Weight	Camera: 500g (1.1 lbs) Mounting base: 400g (0.88 lbs)			
Operating temperature	-30 °C to +50 °C (-22 °F to +122 °F)			
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)			
Environmental protection	IEC 60529, IP66 (NEMA 4)			
Impact protection	IEC 60068-2-75, 50 Joules			

Dimensions (mm)

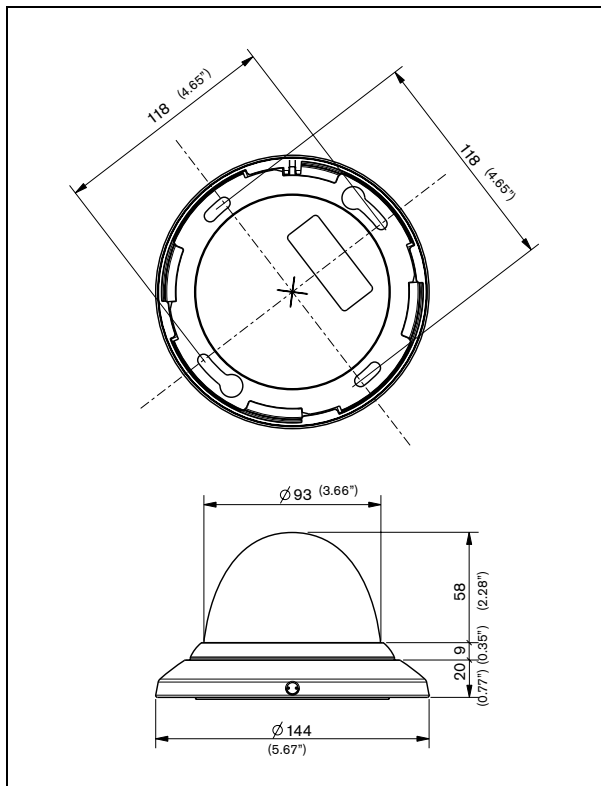
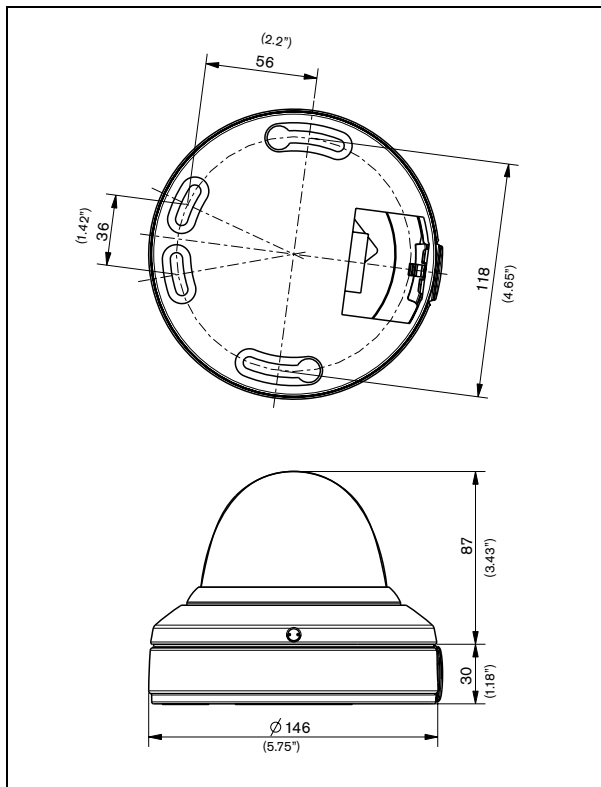
Figure 6-1 Flexidome^{XT}

Figure 6-2 Flexidome^{XT} with LTC 1347 mounting base

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